

1646

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PTO/SB/21 (08-00)

Approval for use through 10/31/2002. OMB 0651-0031

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	<b>Filing Date</b>	April 3, 2001	
	<b>First Named Inventor</b>	Hu	
	<b>Group Art Unit</b>	1646	
	<b>Examiner Name</b>	To Be Assigned	
<b>Total Number of Pages in This Submission</b>	10	<b>Attorney Docket Number</b>	LEX-0160-USA

**ENCLOSURES (check all that apply)**

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

<b>Firm or Individual name</b>	Lance K. Ishimoto    Reg. No. 41,866 Lexicon Genetics Incorporated
<b>Signature</b>	<i>Lance K. Ishimoto by P. H. S. J.</i> Reg. No. 40,162
<b>Date</b>	September 7, 2001

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Hu et al.

Application No.: 09/825,147

Filed: April 3, 2001

Group Art Unit: 1646

Title: Novel Human Ion Channel Protein and  
Polynucleotides Encoding the Same

Examiner: To Be Assigned

Attorney Docket No.: LEX-0160-USA

Assistant Commissioner for Patents  
Washington, D.C. 20231  
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**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
- ☐ Certification under 37 CFR 1.97(e), or
  - ☐ a \$240.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:
- ☐ Certification under 37 CFR 1.97(e), and
  - ☐ a petition under 37 CFR 1.97(d)(2)(ii), and
  - ☐ a \$130.00 petition fee set forth in 37 CFR 1.17(i)(1).  
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- ☒ Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s)

believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

Applicant submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

It is requested that the information disclosed herein be made of record in this application.

Respectfully submitted,

09/07/01  
Date

Lance K. Ishimoto by [Signature] Reg. No. 41,866  
Lance K. Ishimoto

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	3
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**Complete if Known**

<b>Application Number</b>	09/825,147
<b>Filing Date</b>	April 3, 2001
<b>First Named Inventor</b>	Hu
<b>Group Art Unit</b>	1646
<b>Examiner Name</b>	To Be Assigned
<b>Attorney Docket Number</b>	LEX-0160-USA

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## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA	4,215,051		Schroeder et al	07/29/80	
	AB	4,376,110		David et al	03/08/83	
	AC	4,594,595		Struckman	06/10/86	
	AD	4,631,211		Houghten	12/23/86	
	AE	4,689,405		Frank et al	08/25/87	
	AF	4,713,326		Dattagupta et al	12/15/87	
	AG	4,873,191		Wagner et al	10/10/89	
	AH	4,946,778		Ladner et al	08/07/90	
	AI	5,252,743		Barrett et al	10/12/93	
	AJ	5,424,186		Fodor et al	06/13/95	
	AK	5,445,934		Fodor et al	08/29/95	
	AL	5,459,127		Felgner et al	10/17/95	
	AM	5,556,752		Lockhart et al	09/17/96	
	AN	5,700,637		Southern	12/23/97	
	AO	5,744,305		Fodor et al	04/28/98	
	AP	5,830,721		Stemmer et al	11/03/98	
	AQ	5,837,458		Minshull et al	11/17/98	
	AR	5,869,336		Meyer et al.	02/09/99	
	AS	5,877,397		Lonberg et al	03/02/99	
	AT	5,948,767		Scheule et al.	09/07/99	
	AU	6,075,181		Kucheralapati et al	06/13/00	
	AV	6,110,490		Thierry	08/29/00	
	AW	6,150,584		Kucheralapati et al.	11/21/00	

**FOREIGN PATENT DOCUMENTS**

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant	T <sup>2</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
							Figures Appear	

### Figures Appeared

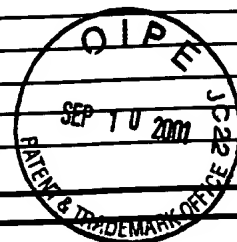
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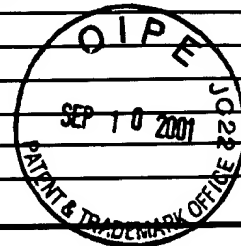
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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Application Number</b>	09/825,147
		<b>Filing Date</b>	April 3, 2001
		<b>First Named Inventor</b>	Hu
		<b>Group Art Unit</b>	1646
		<b>Examiner Name</b>	To Be Assigned
		<b>Attorney Docket Number</b>	LEX-0160-USA
<b>Sheet</b>	2	of	3

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AX	Bird et al, 1988, "Single-Chain Antigen-Binding Proteins", Science 242:423-426.	
	AY	Bitter et al, 1987, "Expression and Secretion Vectors for Yeast", Methods in Enzymology 153:516-544.	
	AZ	Colbere-Garapin et al, 1981, "A New Dominant Hybrid Selective Marker for Higher Eukaryotic Cells", J. Mol. Biol. 150:1-14.	
	BA	Gautier et al, 1987, "α-DNA IV: α-anomeric and β-anomeric tetrathymidylates covalently linked to intercalating oxazolopyridocarbazole. Synthesis, physicochemical properties and poly (rA) binding", Nucleic Acids Research 15(16):6625-6641.	
	BB	Gordon, 1989, "International Review of Cytology", 115:171-229.	
	BC	Greenspan et al, 1993, "Idiotypes: structure and immunogenicity", FASEB Journal 7:437-444.	
	BD	Gu et al, 1994, "Deletion of a DNA Polymerase β Gene Segment in T Cells Using Cell Type-Specific Gene Targeting", Science 265:103-106.	
	BE	Huse et al, 1989, "Generation of a Large Combinatorial Library of the Immunoglobulin Repertoire in Phage Lambda", Science 246:1275-1281.	
	BF	Huston et al, 1988, "Protein engineering of antibody binding sites: Recovery of specific activity in an anti-digoxin single-chain Fv analogue produced in Escherichia coli", Proc. Natl. Acad. Sci. USA 85:5879-5883.	
	BG	Inoue et al, 1987, "Sequence-dependent hydrolysis of RNA using modified oligonucleotide splints and R Nase H", FEBS Letters 215(2):327-330.	
	BH	Inoue et al, 1987, "Synthesis and hybridization studies on two complementary nona(2'-O-methyl)ribonucleotides", Nucleic Acids Research 15(15):6131-6149.	
	BI	Inouye & Inouye, 1985, "Up-promoter mutations in the lpp gene of Escherichia coli", Nucleic Acids Research 13(9):3101-3110.	
	BJ	Janknecht et al, 1991, "Rapid and efficient purification of native histidine-tagged protein expressed by recombinant vaccinia virus", PNAS 88:8972-8976.	
	BK	Kohler & Milstein, 1975, "Continuous cultures of fused cells secreting antibody of predefined specificity", Nature 256:495-497.	
	BL	Lakso et al, 1992, "Targeted oncogene activation by site-specific recombination in transgenic mice", Proc. Natl. Acad. Sci. USA 89:6232-6236.	
	BM	Lavitrano et al, 1989, "Sperm Cells and Vectors for Introducing Foreign DNA into Eggs: Genetic Transformation of Mice", Cell 57:717-723.	
	BN	Lo, 1983, "Transformation by Ionophoretic Microinjection of DNA: Multiple Integrations without Tandem Insertions", Mol. & Cell. Biology 3(10):1803-1814.	
	BO	Logan et al, 1984, "Adenovirus tripartite leader sequence enhances translation of mRNAs late after infection", Proc. Natl. Acad. Sci. USA 81:3655-3659.	
	BP	Lowy et al, 1980, "Isolation of Transforming DNA: Cloning the Hamster apt Gene", Cell 22:817-823.	
	BQ	Morrison et al, 1984, "Chimeric human antibody molecules: Mouse antigen-binding domains with human constant region domains", Proc. Natl. Acad. Sci. USA 81:6851-6855.	
	BR	Mulligan & Berg, 1981, "Selection for animal cells that express the Escherichia coli gene coding for xanthine-guanine phosphoribosyltransferase", Proc. Natl. Acad. Sci. USA 78(4):2072-2076.	
	BS	Neuberger et al, 1984, "Recombinant antibodies possessing novel effector functions", Nature 312:604-608.	
	BT	Nisonoff, 1991, "Idiotypes: Concepts and Applications", J. of Immunology 147:2429-2438.	
	BU	O'Hare et al, 1981, "Transformation of mouse fibroblasts to methotrexate resistance by a recombinant plasmid expressing a prokaryotic dihydrofolate reductase", Proc. Natl. Acad. Sci. USA 78(3):1527-1531.	
	BV	Ruther et al, 1983, "Easy identification of cDNA clones", EMBO Journal 2(10):1791-1794.	

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	BW	Santerre et al, 1984, "Expression of prokaryotic genes for hygromycin B and G418 resistance as dominant-selection markers in mouse L cells", Gene 30:147-156.	
	BX	Sarin et al, 1988, "Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates", Proc. Natl. Acad. Sci. USA 85:7448-7451.	
	BY	Smith et al, 1983, "Molecular Engineering of the Autographa californica Nuclear Polyhedrosis Virus Genome: Deletion Mutations within the Polyhedrin Gene", J. Virol. 46(2):584-593.	
	BZ	Stein et al, 1988, "Physiochemical properties of phosphorothioate oligodeoxynucleotides", Nucleic Acids Research 16(8):3209-3221.	
	CA	Szybalska & Szybalski, 1962, "Genetics of Human Cell Lines, IV. DNA-Mediated Heritable Transformation of a Biochemical Trait", Proc. Natl. Acad. Sci. USA 48:2026-2034.	
	CB	Takeda et al, 1985, "Construction of chimaeric processed immunoglobulin genes containing mouse variable and human constant region sequences", Nature 314:452-454.	
	CC	Thompson et al, 1989, "Germ Line Transmission and Expression of a Corrected HPRT Gene Produced by Gene Targeting in Embryonic Stem Cells", Cell 56:313-321.	
	CD	Van Der Putten et al, 1985, "Efficient insertion of genes into the mouse germ line via retroviral vectors", Proc. Natl. Acad. Sci. USA 82:6148-6152.	
	CE	Van Heeke et al, 1989, "Expression of Human Asparagine Synthetase in Escherichia coli", J. Biol. Chemistry 264(10):5503-5509.	
	CF	Ward et al, 1989, "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli", Nature 341:544-546.	
	CG	Wigler et al, 1977, "Transfer of Purified Herpes Virus Thymidine Kinase Gene to Cultured Mouse Cells", Cell 11:223-232.	
	CH	Wigler et al, 1980, "Transformation of mammalian cells with an amplifiable dominant-acting gene", Proc. Natl. Acad. Sci. USA 77(6):3567-3570.	

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